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The Mexican War and its Place in the Evolution of Operational Art

**A Monograph
by
Major Robert L. Johnson
Aviation**



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ABSTRACT

THE MEXICAN WAR AND ITS PLACE IN THE EVOLUTION OF OPERATIONAL ART by Major Robert L. Johnson, Jr., USA, 52 pages.

This monograph investigates the Mexican War for evidence of modern operational art and answers the question: Does the Mexican War of 1846-1848 hold a unique place in the evolution of modern operational art and, if so, where? The Mexican War represents a distinctly different phase in the evolution of warfare. It was a transitional conflict from the Napoleonic Wars of 1805-1815 to the U.S. Civil War of 1861-1865 and was influenced by the nation's westward expansion and manifest destiny, natural ocean barriers to any serious threat to the nation, and the timing of the Industrial Revolution.

The monograph compares and contrasts those characteristics of modern warfare from the Napoleonic Wars identified in Robert M. Epstein's "Eagles Triumphant: 1809 and the Emergence of Nineteenth-Century Warfare" and the elements of the structure of operational art identified in James J. Schneider's "Vulcan's Anvil: The American Civil War and the Emergence of Operational Art." This process led to the finding that, while operational art in its fullest expression was not practiced during the Mexican War, many of the characteristics from both the Napoleonic War and the Civil War were present.

Table of Contents

| | Page |
|---|------|
| I. Introduction..... | 1 |
| Political and Military Overview..... | 6 |
| II. U.S. Armies, 1840s: Doctrine and Organization..... | 7 |
| III. The Mexican War: Grand Tactics or Operational Art..... | 15 |
| IV. Implications and Conclusions..... | 33 |
| V. Map Depicting Major Operations and Maneuver..... | 41 |
| VI. Map Depicting Scott's Operation in Central Mexico..... | 42 |
| VII. Endnotes..... | 43 |
| VIII. Bibliography..... | 49 |

I. Introduction

What place does the Mexican War of 1846-1848 hold in the evolution of modern operational art? That war fell between the two periods that are often identified as the start points for operational art--the Napoleonic Wars of 1805-1815 and the American Civil War of 1861-1865. Like the study of military history as a whole, the study of operational art in military operations leads to an understanding of what is important in the conduct of the war, its elements, and its characteristics.¹

Currently the U.S. Army defines operational art as the skillful use of military forces to attain strategic objectives in a theater of war or theater of operations through the "design, organization, and conduct of campaigns and major operations."² Operational art translates theater strategy into operational and, ultimately, tactical action. Therefore, there is no particular level of command to which operational art solely belongs; operational art can span every level of command.³

The operational level of war, that level between the strategic and tactical level, is where major operations are planned, conducted, and sustained to accomplish strategic objectives within theaters or areas of operation.⁴ These operations link strategy and tactics by identifying objectives, sequencing operations to accomplish those strategic objectives, and applying resources to sustain the force. This study will focus on the issue of the relationship of the Mexican War to the Napoleonic Wars and the American Civil War and seek to determine the impact on the evolution of operational art.

Discussions on the operational level of war relative to its origins have been many and varied but can generally be divided into two camps. The first are those that maintain the view that operational art is a product of structural and organizational changes such as the creation of army corps. The second group are those that are certain that operational art developed as a product of the combination of technology and structure that occurred in the middle of the 19th century.⁵

In addition to the more widely known military historians and theorists that have written on this subject, there are several notable academic papers that argue the case from each side. The first of these is Robert M. Epstein's work "Eagles Triumphant: 1809 and the Emergence of Nineteenth-Century Warfare."⁶ In this work, Epstein takes issue with those authors and theorists that identify the American Civil War as the beginning of operational art. His analysis depicts characteristics of modern warfare that were clearly in evidence during the Napoleonic period.

The central thesis of "Eagles Triumphant" is that army organization, specifically the corps formation, was the building block of the new style of warfare that came to be called operational art. The corps structure possessed all of the combined arms under one commander whereby the synergy of infantry, cavalry, and artillery created a lethality never before present on the battlefield.⁷

To support this central point, Epstein identified a number of characteristics that, together with the corps organization, form the capability for a force to practice operational art. Among those

supporting characteristics are: resilient formations, their use in distributed maneuver, campaign and battles that are inter-related, national mobilization of resources for total war, unifying operational theme, and decentralized command and control.⁸

The creation of division and corps allowed armies to be broken up with the component units deployed and maneuvered on a broad front. Epstein points to the distributed maneuver of the combined arms corps of the French Army, controlled by a system of mission type orders, that enabled Napoleon to secure the linkage between campaign maneuver and battle.⁹

An example of the concept of distributed maneuver from Epstein's "Eagles Triumphant" is the movement of the *Grande Armee* in August 1805 from the northern European coast to the Rhine, then beyond to the Danube to attack the Austrians. The 200,000 man *Grand Armee*, organized into corps, moved across a 140 mile front according to Napoleon's broadly conceived and flexible plan. This unique type of maneuver allowed Napoleon to envelop the enemy army in a way never before seen on the European battlefield.¹⁰

The second significant work, "Vulcan's Anvil: The American Civil War and the Emergence of Operational Art," written by James J. Schneider, identifies characteristics of operational art and examines the Civil War for their appearance. His primary thesis is that distributed operations is the building block of operational art.¹¹

By distributed operations Schneider is referring to deep maneuvers and distributed battles that are extended or separated in space and time. A common theme serves to unify these distributed operations so

that the focus of the operational design is maintained. He identifies that common aim or theme as being the retention or denial of freedom of action. Without freedom of action an operational artist can not work to accomplish his operational plan.¹²

Schneider also identified seven additional characteristics that together form the structure of operational art in its fullest expression. These characteristics are: distributed campaign, continuous logistics, instantaneous command and control, operationally durable formations, commanders with operational vision, distributed enemy, and distributed deployment.¹³

Schneider's structure of operational art differs from Epstein's in a number of ways. Chief among these differences, besides the primary thesis, is the reliance of Schneider's model on specific technological innovations as products of the Industrial Revolution that had relatively easy application for military use. He argues that until the American Civil War these products--the railroad, telegraph, and mass production--had not matured to the point necessary for the conduct of distributed operations.¹⁴

These tools of the Industrial Revolution are important for operational art because they provide the means for a steady, relatively dependable, and much more efficient flow of war materiel and personnel into a theater of operations. This system allowed the operational planner to count on logistics being available at a certain time enabling him to design and then conduct campaigns and major operations. The telegraph portion of the system provided near real time intelligence and coordination of troop movement.¹⁵

Another difference between Epstein's and Schneider's work is the difference in the primary purpose for distributed operations and distributed maneuver. Epstein makes the case that they are conducted for the creation of favorable tactical situations which increase the chances of winning a battle. Schneider, as pointed out above, argues that the common aim of distributed operations is to maintain freedom of maneuver.

Epstein's characteristic of resilient formations differs from Schneider's attribute of operationally durable formations. The resiliency achieved by the Napoleonic armies, according to Epstein, is the result of the corps structure and its accompanying staff. The primary method of operational durability in Schneider's model was achieved by the Union Army through the use of the railroad to sustain its field army groups.

There are also general, conceptual similarities between the two positions. Epstein's idea of resiliency achieved by the French with the corps and Schneider's point of operationally durable formations achieved by continuous logistics and enhanced employment through use of the telegraph are examples. The effect of either concept on an army's capability for operational art are the same; the difference is how the characteristic is achieved.

The central thesis from these two papers together with their supporting characteristics offer the opportunity to compare and contrast the conduct of the Mexican War for qualities of operational art. From these discussions conclusions can be drawn, answering the research question of this paper: Does the Mexican War of 1846-1848

hold a unique place in the evolution of modern operational art and, if so, where?

Political and Military Overview

The United States had two primary strategic objectives for the Mexican War. First was Mexican recognition of the U.S./Mexico border as the Rio Grande and a guarantee of Texas security. Second was the concession of the territories of New Mexico and California for a negotiated sum of money.¹⁶ The question for the U.S. government, following the failure of diplomatic initiatives, was how to achieve their strategic objectives using military force.

The war in Mexico can be divided into three campaigns. The first, General Zachary Taylor's operation in northern Mexico, was designed to seize effective control of those provinces thus forcing the Mexican government to negotiate a settlement favorable to the United States. The second campaign, conducted concurrent with the first, was General Stephen W. Kearny's expedition to seize effective control of the Mexican territories of New Mexico and California. Those areas were taken, but Mexico still did not sue for peace. The Mexican territory seized proved to be too far from the center of Mexican politics to influence the Mexican politicians to seek a settlement.

Consequently, a third campaign was needed--General Winfield Scott's expedition against the capital of Mexico. Scott's campaign was designed to capture Mexico City to force the government to concede to

American war aims. This would be done by convincing the Mexicans that it would be futile to prolong the war and making its continued prolongation practically impossible by capture of the capital and heart of the country.¹⁷

To determine how the United States used its military forces to achieve its strategic objectives for the Mexican War, an examination of the Army's 1846 organization and doctrine is necessary. This can then be compared with the central theme of Epstein's work, corps structure as the building block of operational art, to determine if U.S. Army organization and equipment provided the capability to engage in operational art. Doctrine must be considered to determine whether formations with the qualities and characteristics necessary for operational art could be maneuvered and fought by the U.S. commanders.

II. U.S. Army, 1840s: Doctrine and Organization

Taylor's 4,000 man expeditionary force encamped on the banks of the Rio Grande in April 1846 represented a significant portion (almost two-thirds) of the entire United States Army. Compared with the European armies of the day the American Army was particularly anemic. Reverting to its short tradition of relying on militia as the foundation of national defense, the U.S. Congress had cut the Army's manpower allocation to 7,833 following the end of Seminole War in 1841. By 1845, actual strength hovered around 6,000 troops.¹⁸

In contrast to its fledgling army, the U.S. in the early to middle 1840's enjoyed a booming, robust economy and near unrestrained growth. The nation's population of over twenty million people, riding an economic wave accelerated by the Industrial Revolution, dwarfed Mexico in every measurable category of national power. Only a fraction of one percent of the American population was in the standing army. Nearly all the rest was involved in economic and territorial expansion. Mexico, with a population of around seven million, had a much larger but poorly led and equipped army of about twenty thousand men.¹⁹

How then can comparisons be drawn with the Napoleonic Wars where armies of combined strengths exceeding 500,000 men on each of the warring sides or with the U.S. Civil War where the Union had over a million men under arms by 1865? The answer is that one must bear in mind that neither the definition of operational art nor the description of the operational level of war rely on size or scope of military forces employed. U.S. Joint Publications do say that the use or intent of military forces to attain strategic objectives is done through the design, organization, and conduct of campaigns and major operations. However there is no framework relative to size of the organization of military forces involved in the execution of a campaign plan. The size of the armies may not be significant in determining whether a particular army or force is capable of engaging in operational art. By strictly applying the current U.S. definition it seems that the use of the armed force instead of size is the determining factor. A nation must have the doctrine, organization, and equipment necessary for this type of

warfare. An examination of the 1846 U.S. Army is required to assess its capability to wage modern warfare.

A point to consider is that the Industrial Revolution in the U.S., especially in mass production of small arms, had begun early in the 1800s and had reached a substantial level of production by 1843. Therefore many of the products of the Industrial Revolution that had such an impact on American warfare during the Civil War--plentiful muskets and rifles, the steam engine, and textile mass production--were available by the Mexican War and were used to pursue a broader war with Mexico than otherwise possible.²⁰

The doctrine, such as it was, for the U.S. Army in the years leading to the Mexican War originated largely from the ideas and experiences of Winfield Scott. Schooled as a lawyer, Scott received a direct commission in the Regular Army in 1808. For his participation in the War of 1812, especially during the 1814 battles at Chippewa and Lundy's Lane, Scott was promoted to the brevet rank of major general in 1814. Continuing his Army service after the war, Scott finally became a permanent major general and gained command of the entire Army in 1841. He would continue as General in Chief of the Army until November 1861.²¹

General Scott was heavily influenced by his success at Chippewa and Lundy's Lane--success which he attributed to superior tactical training and conditioning of his soldiers. This reinforced his earlier readings of pre-French Revolutionary authors of military history and theory. During his early years as a general and strategist Scott did not have available the theoretical works based on the post-Napoleonic period. However he did read current writings on developments in warfare and he traveled to

France immediately following the War of 1812 where he discussed and studied the Napoleonic style of warfare.²²

Following the War of 1812, Scott chaired a board of officers to develop and field a new manual on tactics. This tactics manual became known as the "System of 1815" and, though modified in 1825, remained as the Army standard until 1834. Even then the 1834 modification merely incorporated the Prussian drill system. This system remained unchanged until just prior to the Civil War.²³ That doctrine for tactics--there was no doctrine for levels of war above the tactical level nor was there joint doctrine--stressed qualities of both the British and French armies prior to the Napoleonic period.

In 1835 Scott wrote the broadest U.S. work to date on warfare. Entitled Infantry Tactics, or Rules for the Exercise and Maneuvers of the United States' Infantry this three volume set discussed everything involved in operations from the soldier level to division level. However the reality of the Army's organization, no formations above regimental level in being, precluded practice of any part of this doctrine except for small unit level. Soldiers were trained to three levels: the School of the Soldier, the Company, and the Battalion. In the early 1840's, Scott did institute a system that assembled deployed units yearly for drill at the battalion and regimental level. While this initiative improved morale and instilled a degree of pride in the troops it was a training program far removed from the intricacies of maneuvering divisional or corps size forces in the field.²⁴

It is clear that the U.S. Army lacked a comprehensive doctrine above the tactical level in the years leading to the Mexican War. Most

obvious is the lack of a doctrine for maneuvering large formations. The doctrine did stress tactical discipline and competence, small unit maneuver, infantry, light artillery, and dragoon battle drill. This focus served the Army sufficiently given its mission over those years which was limited to that of a frontier constabulary. Unlike the European states, there were no major threats to America.

The American Army in the early 1840's was organized into two administrative divisions--the Eastern Division commanded by Brigadier General John E. Wool, headquartered in Troy, New York and the Western Division commanded by Brigadier General Edmund P. Gaines, headquartered in New Orleans, Louisiana. Each of these divisions were divided into eight territorial departments. These administrative departments were not manned with an authorization of staff officers but with junior officers from the field. This dispersed administration coupled with the small size of the Army magnified problems associated with training large units on a routine schedule.²⁵

As mentioned previously, the general in chief of the Army was Major General Winfield Scott. However, there was not a strong link nor effective command system between the Army Chief, the Secretary of War, or the President. Scott had no supporting staff and the authority and responsibility of the post of Army Chief had never been formalized. Therefore, the scope of Scott's authority rode on his personal relationship with Secretary of War William L. Marcy and President Polk. This arrangement clouded the issue of who bore the responsibility of translating the strategic war aims into an operational design.²⁶

The entire field army consisted of only fourteen regiments. After August 1842 each of the infantry regiments were organized into ten forty-two man companies. Regimental strength of the other arms varied with task organization and variances were not uncommon. For instance, when General Zachary Taylor's force departed Louisiana for Texas it included one enlarged battalion of "red-legged infantry." These were artillery soldiers pressed into service as infantry--a mission for which they routinely trained during their service as coastal artillery troops. For the Mexican War, the Army was organized into divisions. Numbering around 2,600-3,600 troops, and lacking organic cavalry, the divisions were used as autonomous units of maneuver on a routine basis. The cavalry regiments were organized for use under control of the army commander, however detachments and companies of cavalry were often attached to divisions for specific operations.²⁷

The standard infantry weapon by the mid-1840's was the .54 caliber Model 1841 Jager rifle (often called the Mississippi rifle) with percussion ignition. In reality many of the troops in the Western Division carried the older .69 caliber flintlock musket (Model 1822 or 1840) out of preference.²⁸ Under Taylor's tactical training system marksmanship was stressed which reduced the performance delta of these older muskets compared to the European rifle of the day.²⁹

The U.S. cavalry regiments were actually dragoons that trained to fight the enemy dismounted. Each regiment of dragoons consisted of ten companies of fifty-four men. These units were equipped with the Hall breechloading rifle along with sidearms (Colt six shot revolver) and heavy sabers.³⁰

Artillery troops were trained to serve as infantry. This occurred due to their primary posting at coastal fortresses where they were expected to augment the local militia to repel landing parties that made it ashore. After 1821 the Army had four artillery regiments and typical cannon was six-pound guns and ten-pound smooth-bore howitzers. Organization and tactics for the employment of light artillery steadily improved in the years leading to the Mexican War to the point where it played a pivotal role throughout the war.³¹

In his manuscript "Eagles Triumphant" Epstein makes the point that the corps was the building block of the new style of warfare. That is, organization that allowed units of sufficient size capable of independent or semi-independent maneuver fight the successive battles of a campaign.³²

At the beginning of the eighteenth century, no nation had a fixed military unit larger than regiment. The French Army had organized divisions in 1763 as the result of their experiences during the Seven Years War. Building on that development within the French Army, Napoleon created the corps concept capable of executing his idea of the strategically decisive campaign and battle.³³ The United States created divisions after the start of the Mexican War, but not corps. Part of the reason was the small size of the armed forces and their units. Corps may have been too large in proportion to the size of the divisions.³⁴

Since the American Army had only divisions and the maximum size of any of the field armies never exceeded 14,000 troops in an area of operations, the question of whether this division structure achieved the quality of resiliency needs to be addressed. On 1 March 1800, Napoleon

directed the commander of the Army of the Rhine to reorganize his 104,000 troops into four corps ranging in size from 20,000 to 40,000 each. The corps' divisions ranged in size from 5,000 to 10,000 troops.³⁵ This strength of the division in proportion to its parent corps, 25%, is comparable to that of the American divisions strength relative to the field army. Consequently, it was possible given the relational factors for American divisions to be used like Napoleonic army corps.

An American division of Scott's army at Vera Cruz with 2,600 infantry troops, for instance, represented between 19%-26% of the field army's strength. Like the French Army before and the Union Army after, American divisions during the Mexican War were typically augmented with at least one battery of artillery and, when required, a detachment or company of dragoons. Since the American Army in 1846-1848 had no corps organization, the field army maintained control of that part of the artillery regiments not attached to the divisions.

Even before the war the Mexican Army was organized into regiments, brigades, and divisions, supported by up to four brigades of cavalry and several batteries of artillery. Although they outnumbered the Americans throughout the war by as much as four to one, the Mexican Army was qualitatively inferior to the American Army. The primary reason for this was not due to organization, but the extremely poor leadership at every level of command in the Mexican Army.³⁶

Therefore, although the American Army of the Mexican War did not have corps they did have divisions which could be used as corps, given their relative size in respect to the forces used.³⁷ Unfortunately, the Army had not trained for employment of any formation above the

regimental level, much less a division or corps. The issue of whether the American forces were used operationally or tactically will depend upon examination of their use in the campaigns.

III. The Mexican War: Grand Tactics or Operational Art

The war can be viewed in the context of its three major campaigns. The initial campaign plan for the Mexican War--Taylor's campaign of limited warfare from May 1846 through February 1847 in the northern provinces of Mexico--provides the first opportunity to examine maneuver warfare, determine the quality of distributed operations, and the ability of the nation to field an operationally durable Army. Kearny's expedition to seize the New Mexico and California territories, the second major operation of the war and lasting from June 1846 until January 1847, offers little to the effort to evaluate the evolution of warfare in the U.S. because of the limited forces involved. The third, Scott's campaign in central Mexico conducted March 1847 through 2 February 1848 to take the capital, provides the opportunity to examine all of the characteristics comprising both Epstein's and Schneider's model for operational art.

Taylor's unitary field army, deployed to the Rio Grande before the start of hostilities, was initially organized into regiments with no intermediate headquarters. Once the war started on 24 April 1846 and the Army started to recruit and deploy regular and volunteer units to Mexico, Taylor was able to reorganize the army into divisional structure with relative ease. However, this build-up of troops would take time.³⁸

On 19 August the lead division of Taylor's 11,000 man army, William J. Worth's 2nd Division departed for the town of Cerralvo (about fifty miles west) where he was to establish a forward operating base from which the Army could attack to seize Monterrey. The second division, David E. Twiggs' 1st Division, followed three days later trailed by William O. Butler's "Field Division" comprised of 3,000 volunteers. On a parallel route, Taylor deployed his small division (two regiments) of irregular cavalry from Texas (later to become the Texas Rangers) under the nominal command of Major General J. Pinckney Henderson. Henderson, also the governor of Texas, allowed effective command of the two mounted regiments to fall to Colonel John C. Hays.³⁹

Taylor left an additional 4,700 man formation of volunteers under the command of Robert Patterson at the assembly area in the vicinity of Camargo. Supporting this operation was the movement of John E. Wool's 3,400 man division (primarily volunteers) from San Antonio on 14 August. Wool expected to join Taylor near Chihuahua but delays resulted in the division not arriving into the region until late October.⁴⁰

The Mexican Army defending Monterrey, the Army of the North, included several divisions of infantry that, counting 3,000 local militia, totaled over 10,000 troops. Additionally, the Mexican army commander had a division of cavalry that had shadowed the movement of Taylor's divisions since they left Camargo. The Mexican divisions were arrayed in the city and in a number of fortifications. Two of these forts, the Tannery and Fort Diablo overlooked the road from the northeast over which Taylor would have to approach the city. A third, the Citadel, dominated the entire area north of the city.⁴¹

Taylor's plan called for Worth's division to maneuver north and west of Monterrey's defenses to cut the Mexican supply line to Saltillo then threaten the fortresses from the rear. In essence Taylor intended to use Worth's division to execute a turning movement with Worth's division pressing from the west and elements of the other two divisions attacking from the east. After three days of savage fighting, the Mexican's surrendered the city.⁴²

Taylor's operation to take Monterrey favors in some respects the approach advocated by the French theorist and staff officer, Pierre Bourcet, of the late 1700s which is outlined in Epstein's work. Bourcet's concept, later refined by Napoleon and adapted for use with the corps, called for the use of semi-independent divisions deployed within mutually supporting distances from each other, ideally on different axis of maneuver, that could be used to flank enemy defenses. Bourcet's ideas, according to Epstein's model, resulted in campaigns and battles becoming inter-related, with battle being viewed as a continuous stream.⁴³

Another French theorist that Epstein discussed in his thesis on Napoleonic warfare was the Comte de Guibert, who wrote about the same time as Bourcet. It was de Guibert that first used the term "grand tactics" in his treatise on maneuver and the conduct of battles and held with the same view as Bourcet regarding the use of divisions. Unlike Bourcet however, de Guibert developed the idea of battles having a beginning, middle, and end. The first division would contact the enemy, the army commander would maneuver the other divisions to achieve mass and win the battle, followed by pursuit of the defeated enemy.

Building on these concepts, Napoleon developed the idea of the strategically decisive campaign and battle.⁴⁴

Although forced to use a single axis of approach, except for Hays' Rangers and Wool's division enroute from New Mexico, Taylor generally maintained a twenty mile separation between the divisions to allow room to maneuver in the event a division became engaged. By effective use of his dragoons, to include assigning detachments to the division commanders, Taylor remained aware of the location of the Mexican Army of the North. This prevented any of his divisions being attacked without early warning.

Once he reached the defenses of Monterrey Taylor demonstrated his capability of thinking in terms of distributed operations. He did not consider the Mexican Army of the North to be his objective, therefore he did not seek a decisive battle. The use of one of his divisions to conduct a fifteen mile tactical maneuver around the Mexican defenses in a semi-independent operation to envelop the enemy is exactly the use of divisions by an army commander envisioned by Bourcet.

Taylor's campaign is characterized by the integration of several distributed operations to seize the northern provinces and the key terrain within them. Wool's independent movement south from San Antonio, the manner in which he remained focused on his campaign design, and the flexibility in avoiding frontal assault of the Monterrey defenses demonstrate Taylor's grasp of his operational concept.

Taylor subsequently occupied Saltillo and Victoria to complete his control of northeastern Mexico. However, despite the operational success of the campaign it failed to achieve the strategic objectives; the

Mexican government would not, in fact they could not, sue for peace. The Mexican people simply would not have accepted the concession of their sovereign territory because of this indirect pressure by the Americans.

The system with which Taylor exercised command and control of his divisions, given the undeveloped nature of the theater, followed very closely with the Napoleonic style explained by Epstein--a reliance on mission type orders that provided the corps or division commanders with Napoleon's intent. This allowed Napoleon to maneuver his forces over wide areas while remaining in compliance with the commander's intent and vision for the campaign.⁴⁵

Taylor utilized this technique, augmented by courier messages, to control his divisions. This was fairly easy to do with the divisions moving with the main army, but less so with the formations that were maneuvering semi-independent of the main army. Taylor demonstrated his ability to coordinate actions by semi-independent formations operating significant distances (sixty miles) away from the Army. Wool's movement from San Antonio for the assault on Monterrey in the fall of 1846 and Alexander W. Doniphan's march from Santa Fe in December through February 1847 to support the assault on Chihuahua are examples.

Either of these operations could have resulted in a disaster for Taylor given the strength of the Mexican Army of the North. However the use of decentralized command and control coupled with a good understanding of the unifying operational concept enabled those distributed operations to be successfully completed.

The period from May through September 1846 provides the opportunity to examine the preparations of the Army in its attempt to establish its first lines of communications outside the nation's borders. This logistics effort, if successful, would provide the American Army in Mexico with two of the characteristics identified by Schneider as characteristics of operational art: operationally durable formations and continuous logistics.⁴⁶

Operational durability, according to Schneider, was achieved in the Union Army largely due to the seamless logistics system that sustained the field army and the army group.⁴⁷ The railroad and the lines of communication that rail allowed to be established were the means with which the Union formations were sustained at the operational level. He further makes the point that in the Civil War the opportunity to stock materiel before the start of a campaign in friendly or neutral nations did not exist.⁴⁸ This is very similar to the situation facing the American Army in Mexico.

Initially, Taylor had to pause from May through August to build stocks of materiel at his depot at Point Isabel, located at the mouth of the Rio Grande on the Gulf coast and to reorganize and equip the Army. This depot served as the American base of operations for the northern Mexico campaign, was serviced by contract vessels transporting materiel from the east coast and from New Orleans, and was protected by the U.S. Navy's Gulf Squadron. Like the Union's use of the railroad to move war materiel in the tonnage necessary to provide continuous support, the American Army in 1846 also used a product of the

Industrial Revolution, the steamship and steam powered riverboat, for the same purpose.⁴⁹

This transport effort was sizable. Quartermaster reports show that at least 127 ocean-going cargo and troop ships were directly engaged in continuous support of the Mexican campaigns. Steam powered riverboats were moved into the theater out of Mississippi River tributaries and from as far away as the Allegheny River in Pennsylvania to move supplies up the Rio Grande from Point Isabel. Additionally, contracts were awarded for the construction of new river boats with the latest technological innovations incorporated in their designs and ocean-going steamers were purchased outright.⁵⁰

The Americans in Mexico suffered from the same limitation with the steamship and riverboat that the Union would with the railroad fifteen years later. Both could speed large quantities of materiel into the theater of operations but had limited distribution utility beyond that point. Rail lines did not always run in the direction of the lines of operation and, even when they did, other transport modes had to be used to move supplies from beyond the railhead. The steamship had a similar shortfall in its support utility to a field army and, beyond the depot, other transport modes had to be used.

This problem plagued Taylor throughout his campaign; however the number of wagon trains and pack animals provided from the Quartermaster Department, after overcoming early transportation shortages, was sufficient for him to provide continuous overland lines of support. Riverboats capable of navigating the Rio Grande also were used extensively. Only during a short period late in the campaign, just

prior to the battle of Buena Vista when he needed all forces to meet a much stronger Mexican force, did Taylor have to voluntarily cut his own land supply routes to the Gulf. In this instance the means of supplying the Army was Napoleonic.⁵¹

Surprisingly, the first use of the railroad and telegraph for purposes of supporting a war effort occurred in the Mexican War. Though limited to the eastern seaboard, rail was used to transport materiel to New York and Boston ports. Telegraph was used extensively between those cities and Washington to coordinate the procurement and transport of supplies and personnel.⁵²

The supporting quartermaster system in the United States developed into a system that the Army would continue in use throughout the Civil War. The Quartermaster General, Thomas S. Jesup, employed a network of purchasing agents that sought sources for goods throughout the industrialized sections of the country to meet the needs of the Army. Taken together the U.S. logistics system, though occasionally the subject of a fiery message of complaint from Taylor, provided the American Army with a surprisingly continuous, while not exactly seamless, logistics system.

The last battle of Taylor's campaign, Buena Vista conducted 22-23 February 1847, had much in common with the first two purely tactical engagements at Palo Alto and Resaca de la Palma. By February 1847 the bulk of Taylor's army had been withdrawn to form the nucleus of Scott's army for the central Mexico campaign. The battle between the 20,000 man Mexican Army and a single reinforced U.S. division (4,750 troops), besides allowing an American presence to remain in northern

Mexico and block the trading routes into New Mexico, added nothing to the operational design of Taylor's campaign.

Concurrent with Taylor's campaign in northern Mexico was Kearny's expedition from Fort Leavenworth to seize control of New Mexico and California.⁵³ Throughout the month of June, Kearny sent his force, which he called the Army of the West, in echelon over the Santa Fe trail. Eventually numbering more than 2,400 men, the Army of the West deployed with a train that consisted of more than 1,500 wagons, 3,600 draft mules, and almost 15,000 cattle.⁵⁴ This unconventional force was generally successful in its mission, securing Santa Fe in August and San Diego, California in December.

Notable was the joint operations Kearny conducted with the Pacific Naval Squadron. In January 1847 Kearny, in concert with Commodore Robert F. Stockton defeated the small force of Mexicans in the Battle of San Gabriel near Los Angeles. Previously, in July 1846, Commodore John D. Sloat (Stockton's predecessor) had already captured Monterey and, with the local American settlers, seized control of the San Francisco area.⁵⁵

Kearny's expedition is unique in that it did not encompass the number of troops involved in Mexico, did not have to fight large mobile forces, and the that it deployed beyond the range of logistical support from the eastern U.S. While important to the overall strategic objectives and unique in the distance and purpose of the operation, the lack of significant military forces involved on both sides make it less applicable to Epstein's and Schneider's models for operational art.

The third campaign of the war, the operation to seize Mexico City, began with the amphibious landing of Scott's 12,000 man army south of the fortress port of Vera Cruz on 9 March 1847. Supported by the Navy's Gulf Squadron, Scott skillfully landed a sizable combined arms army comprised of three divisions plus army troops (two regiments of dragoons, an engineer company, and an ordnance company). These divisions were commanded by Worth, Twiggs, and Patterson. All had gained experience in maneuvering division sized formations in northern Mexico.⁵⁶

The operational theme or vision that Scott had for the campaign had been forged while he was still in Washington. This characteristic is important for the success of a practitioner of operational art. Napoleon routinely possessed a unifying operational theme for an entire campaign. That theme, identify the key theater, divide the enemy, and decisively destroy them, coupled with his ability to view the European battlefield as a whole, provided him with the unparalleled opportunity for operational art.⁵⁷

This is the same quality that Schneider assigns to Grant during the Civil War. Grant demonstrated a unified, holistic approach in the design, execution, and sustainment of campaigns. Closely intertwined with this power of vision were the contributions of the commander's staff and the speed with which information from throughout the theater could be gathered, analyzed, and acted upon.⁵⁸

Scott certainly understood his strategic direction and clearly saw the campaign in central Mexico in a holistic manner. He had formulated his campaign design along the historical lines of operation that invading

armies had repeatedly used to assault Mexico City. After taking Vera Cruz, he planned to capture the capital while out-maneuvering the Mexican Army when possible and fighting only when it became unavoidable.

Included in Scott's operational theme was his idea of winning the peace through fair treatment of the Mexican populace. This policy was designed to induce a pro-American sentiment and was formulated as a critical component of Scott's operational design. The Army was not large enough to secure the Mexican nation through force of arms alone. Taylor had proved the validity of this concept in his campaign and Scott would reap significant operational benefit after taking Mexico City. While there were exceptions the policy was strictly enforced by the American leaders and violations by troops were dealt with summarily. For instance, in April 1847 an American soldier was hanged for the rape of a Mexican national.⁵⁹

Vera Cruz was essential to the campaign because it was the servicing port of Mexico City with two separate routes leading to the city--the National Highway and the Orizaba Road. The latter actually joined the former some one-hundred miles inland, then later branched into two routes again. Vera Cruz would constitute Scott's base of operations for the campaign. After laying siege to the city and subjecting it to continuous bombardment from the sea and the siege line starting on 23 March, the city's defenders surrendered on the 27th.⁶⁰

With a base of operations established Scott could begin preparing for the assault on the capital. On 8 April 1847 Scott began moving his army out of Vera Cruz along the main highway, the National Road. In

what had become the norm for the U.S. Army the divisions marched on consecutive days, maintaining a separation of about twenty miles, screened by the dragoons. Scott was forced to use only one route. If he had attempted to also move on the southern route, the Orizaba, the mountainous terrain and lack of connecting roads would have put his divisions beyond supporting distance of each other. On the 11th, elements of the lead division (Twiggs) became aware of a concentration of Mexicans at the town of Cerro Gordo which is about fifty miles inland from Vera Cruz.⁶¹

The Mexican Army, again commanded by Santa Anna, had begun moving into excellent defensive positions at the pass at Cerro Gordo on 4 April. By the time the first Americans made contact with the Mexican defenses, Santa Anna had moved about 15,000 troops into position to stop Scott on the eastern side of the Sierra Madre Oriental.⁶²

On 17 April Scott, having kept all three of his divisions in supporting distance but in echelon, took advantage of a route discovered by divisional engineers to bypass the main Mexican defenses with Twiggs' division. Scott wanted Twiggs, after flanking the Mexican primary positions to the north of the National Road, to attack through and block the National Highway behind the Mexicans. Twiggs only succeeded in getting one brigade astride the road behind the Mexicans, but was repulsed by 2,000 Mexican cavalry and an artillery battery.⁶³

However the effect of this action, combined with the attacks and artillery fire into the front and flanks of the Mexican line, resulted in the Mexican line collapsing in panic. Scott's dragoons pursued the dispersed Mexican Army for about twenty miles before halting. Santa Anna would

not be able to reconstitute a defense beyond the immediate approaches to the capital.

Scott could not use distributed maneuver in the sense it was used in the Napoleonic model by the European Armies. The primary reason for this was the limited routes through the Sierra Madre Oriental mountains. Towns in the region were all built along the National Highway which accounted for the lack of north and south roads.

Before pressing his march on Mexico City, Scott had to face serious logistics problems. Just as in Taylor's campaign, the Army and Navy were stockpiling large quantities of supplies and war materiel at the depots on the Gulf coast. The problem was getting those supplies to the Army in the quantity needed. Adding to the problem was the need to get personnel replacements since 3,000 of his volunteers were nearing the expiration of their term of enlistments. The Americans were facing a test of their ability to sustain an operational campaign.

By instituting what amounted to a ninety day operational pause, Scott was able to receive new personnel bringing his strength up to about 14,000 troops. The Army was also resupplied by wagon train and pack animal which brought its on-hand depot stores to a level that Scott calculated would support the Army until he could take Mexico City. Mexican guerrillas were making the use of the National Highway too risky to use as a supply line, except under sizable armed escort. Also, to maintain the supply route Scott had to garrison not only Vera Cruz but the intermediate cities of Jalapa and Perote. Therefore, in order to assemble the maximum number of troops for the Mexico City battle,

Scott voluntarily abandoned those positions and severed his routine land line of communication, except that which moved under heavy escort.⁶⁴

By 7 August Scott was ready to move the Army, reorganized now into four divisions--commanded by Worth, Twiggs, Gideon J. Pillow, and John A. Quitman. Opposing them stood Santa Anna's reconstituted army of 36,000 supported by 100 cannon.⁶⁵ The problem for a defender intent on continuing the strategy of static defense was that, for the final approach, there were three approaches an attacker could use to attack the capital.

While two of the approaches were circuitous and very rough, the main road was more direct and very well developed. It was across the latter that Santa Anna established a strong position at El Penon, a high hill ten miles east of Mexico City, defended by 7,000 troops and thirty cannon.⁶⁶

Unfortunately for the Mexicans, months previously Scott had assigned his chief topographical engineer, Major William Turnbull, and assistant engineer, Captain Robert E. Lee, to study the options for getting the Army through this naturally defensible area and recommend a course of action. They had carefully accumulated intelligence concerning both the mountainous and marsh portions of the approaches to Mexico City, possible Mexican defenses at El Penon, and the road net through the three large lake areas east of the capital. Lee had detected a narrow track that left the main road, ran south of Lake Chalco, then joined the Acapulco Road at San Agustin just south of Mexico City. Accepting this recommendation, Scott had one division pin or fix the El Penon defenders in their positions by mounting a demonstration while he

maneuvered the Army along the southern route completely bypassing the Mexican defenders.⁶⁷

Scott persisted in maneuvering his divisions along a single route of advance--in effect divisions in column. While not exactly in accordance with the manner in which the French and Union typically moved their corps, initially the mountainous then the marshy terrain prevented Taylor from dispersing his divisions over a broad area. The intervening terrain would have put the divisions beyond mutually supporting distance from one another.

This technique in continually flanking the Mexican defenders to gain an alternate approach to the capital is very similar to a historical example of distributed operations used by Schneider in "Vulcan's Anvil." That example is the Union Army's campaign in May 1864 to take Richmond. Meade continually executed a series of deep maneuvers and distributed battles in order to bypass Lee's eastern flank, gain freedom to maneuver, and take Richmond.⁶⁸

In Schneider's model, the attribute of distributed campaign is noted as the final structure that the operational artist seeks to construct using distributed operations. Schneider highlights that in its fullest expression operational art is characterized by several simultaneous and successive distributed operations within a campaign. However he does concede that this is a matter of quality, not function, and that a distributed campaign may consist of a single major operation. In the case of Scott, his campaign seems to fall into that part of the operational art spectrum articulated by Schneider.⁶⁹

Scott's operational design fits very well within Schneider's model for a distributed campaign. Despite trying to completely envelop and trap Santa Anna's defending army at Cerro Gordo--a maneuver consistent with a strategy of annihilation--Scott's operational design continued to call for battles to be fought only to maintain freedom of action. He demonstrated this at El Peno by fixing the defenders with one division then sliding his army south to completely bypass the position. In Scott's mind, just like Taylor in the northern campaign, battle was subordinate to maneuver. This is the central piece in Schneider's concept of distributed campaign.⁷⁰

With Scott now approaching the city from the south, Santa Anna shifted his forces from the east to meet the threat. Again he selected defensible terrain on a line behind the Churubusco River and between the town of Churubusco and Lake Xochimilco. This line ran about five miles with strong points at intervals. The southwestern end of the line extended south of the Churubusco River to the town of San Angel where 5,500 troops were defending. The other primary positions were at Coyoacan and Churubusco, with a reserve still in position on El Penon. Altogether the Mexicans had managed to emplace 20,000 troops in front of the Americans.⁷¹

Scott was forced to attack in this instance. The marshy terrain prevented any further maneuver to bypass the defenses. On the night of 19 August the Americans had detected and had moved into position to attack a Mexican division that had extended its primary strongpoint beyond mutual supporting distance of the Mexican line. Scott calculated that a heavy blow directed against that division (the commander was a

political rival of Santa Anna) could unhinge the entire Mexican line. In the early morning of the 20th, the Americans attacked and, as Scott had foreseen, the 7,000 man Mexican division broke and fled in panic. Santa Anna was able to withdraw his remaining 12,000 troops into the gates of Mexico City in fairly good order and secured the two bridges across the Churubusco River.⁷²

Scott pressed the Mexicans by sending two divisions in a main attack of the bridges, one division in a supporting attack, and one division to Portales to effect a turning movement north of the main Churubusco bridge. This bloody but successful operation secured the main causeway bridges leading to the center of the city. The final attacks into the city occurred 7 September, at Molina del Rey, and 14 September on the old Spanish fort of Chapultepec. Scott had accomplished his operational objective of seizing control of Mexico City.⁷³

The last five engagements of Scott's campaign demonstrate the quality of operational durability by the American Army in Mexico. Despite sustaining almost 2,200 battle casualties Scott was able to continue his advance on Mexico City. His divisions absorbed these heavy casualties yet maintained their ability to maneuver and fight.

Another of the attributes that Schneider identifies in "Vulcan's Anvil" as helping to form the structure of operational art is the opportunity for the operational practitioner to maneuver and fight a distributed, or structured, enemy. The enemy must field a force of sufficient structure against which a commander can use his operationally durable formation,

sustained by continuous logistics, to conduct distributed operations and campaigns.⁷⁴

The Mexican Army provided a fairly complete structure although, despite its size, it lacked true staying power. Nevertheless the army was organized in the mold of the European armies of the day and presented a challenge for both Taylor and Scott. One of the reasons for its weakness was the corrupt nature of the senior leadership that polluted the army with political undercurrents and jealousy. However the Americans were aware of this weakness and developed their operational design for the war with it in mind.

A key characteristic that Epstein identifies in "Eagles Triumphant" as another of the blocks making up the structure of modern war is a nation mobilizing for total war. For the French during the conduct of the Napoleonic Wars the *levee en masse*, instituted in 1793, provided the means to support the logistical demands of a field army engaged in modern war.⁷⁵

The attribute is not easily examined in relation to the Mexican War because it was not a total war but rather one with quite limited aims. Therefore the Army's demands on the nation's resources were not as great as the demands placed on the French in the early 1800s nor the Union in the 1860s. However, considering the measures taken to equip and reorganize the U.S. Army into division size formations the foundations were laid for a massive increase in national mobilization if it had become necessary.

Schneider's attribute of operational art concerning the targeting of an enemy's capability to resource its forces engaged in operational art,

what he calls distributed deployment, has little relevance to the Mexican War. The concept calls for an industrialized nation to protect its capability to wage modern war while seizing or destroying the opponent nation's capability to resource its effort.⁷⁶

Mexico in the middle 1800s had no industrial capability comparable with that of the U.S. Its ability to sustain an army in protracted warfare hinged on its ability to import war materiel and arms. The U.S. Navy had in effect cut Mexico's ability to receive goods from either coast and Taylor in the north effectively blocked the routes into the trading centers in New Mexico. Having considered the characteristics or attributes of operational art articulated by Epstein and Schneider and applied them to the Mexican War, it is apparent that some of the characteristics were more fully expressed in some areas than others. Obviously warfare in the United States, though influenced somewhat by European wars, had developed differently.

IV. Implications and Conclusions

There are some similar characteristics between Epstein's treatise on the Napoleonic Wars with those of the Mexican War. Most notable were the distinguishing qualities of resilient formations, inter-related campaigns and battles, unifying operational theme, and decentralized command and control. The chief contrast between the two styles of warfare is the lack of sufficient army organization at the corps level. A secondary contrast is the inability to conduct full scale distributed maneuver completely within the Napoleonic mold. Coupled with this is the

fact that the United States did not have to resort to total mobilization of national resources since the Mexican War was very much a limited effort.

Though the American Army fell short of the corps organizational standard pioneered by Napoleon, it sometimes achieved similar effects with its divisions. While there is little doubt that any of the armies from the Napoleonic battlefields could have destroyed any or all of the American forces deployed in Mexico it must be remembered that what mattered was that the Mexican Army, despite its size advantage and because of its weak leadership, could not. This enabled the American Army to engage in a form of emerging operational art similar to, but on a different scale than, that exhibited by Napoleon.

Likewise, when the Mexican War is examined against the structure of operational art developed in Schneider's "Vulcan's Anvil" we found that certain characteristics of operational art that he identified were also present in varying degrees of quality. The primary attribute of operational art identified by Schneider, distributed operations, was certainly practiced by the American Army. Near simultaneous and coordinated operations throughout northern Mexico and the New Mexico and California territories and the series of sequential flanking operations and maneuvers executed by Scott to maintain freedom of maneuver, though limited in scope and objective compared to Grant's campaigns, can be seen as precursors of the major operations to come in the Civil War.

Additionally, the concepts of distributed campaign, continuous flow of logistics into the theater, operational durability, and commanders with

operational vision were present in part or in whole throughout the Mexican War. The areas of Schneider's model of the structure of operational art in which the American Army could not or did not engage were instantaneous command and control and distributed deployment.

Given that the American style of warfare during the Mexican War differed significantly from its previous major war, the War of 1812, and the next war, the Civil War, its nature must have been transitional. The Napoleonic Wars, ending in 1815, had a definite impact on those that would write and develop doctrine and organization of the U.S. armed forces. Two of the most influential military leaders in the United States, Winfield Scott and Dennis Hart Mahan, studied in France and brought back to their professions many of the lessons of the French. Unfortunately there were other, more powerful forces at work regarding the role, structure, and organization of the U.S. Army and the influence of those leaders was limited.⁷⁷

Accepting Epstein's argument of the qualities of operational art that developed during the Napoleonic wars and that it was Napoleon that made the "leap in warfare from the eighteenth to the nineteenth century,"⁷⁸ it is reasonable to expect the American Army to emulate the French model. Certainly the problems in doctrine and organization, especially concerning the militia, encountered by the American Army in the War of 1812 and that led to disgraceful failures and near-disasters, were stimulus for change.⁷⁹ The fact that other European countries had or were undergoing that evolution to modern warfare was known in the U.S. What, then, was the major impediment to rapid adaptation of the lessons of the Napoleon Wars?

The chief reason seems to be the nature, or lack thereof, of a serious threat to the nation. This certainly affected the evolutionary direction of the U.S. armed forces and the degree to which the U.S. Army embraced the lessons of the Napoleonic Wars. Lacking a major enemy in the form of another industrialized nation there simply was no reason or opportunity to embrace the French model. This dictated a different direction in the evolution of warfare for the United States--reliance on state militia and a small professional army tailored to face the Indian threat.

Several historians have called the Mexican War the end of the era of premodern warfare for the United States.⁸⁰ This statement is true in many respects. However it does leave open the question of why European armies had entered the modern era during the Napoleonic age and the U.S. did not ascend to that plateau until very late in the Civil War--according to Schneider's thesis April 4, 1864--almost fifty years after the Europeans.⁸¹

At the start of the Civil War, the U.S. Army looked very much like the army of 1846. Numbering only between 16,000 and 17,000 officers and men at the outset of the Civil War the Army lacked the leadership capable of maneuvering large formations, corps or field army organization, and the doctrine to conduct distributed operations in modern, post-Industrial Revolution warfare.⁸² Facing an enemy that had the potential of developing many of the characteristics of a modern European army--the Confederate States--the U.S. had to develop, train, and deploy an army with the organization and capability to conduct distributed campaigns.

Does the Mexican War of 1846-1848 hold a unique place in the evolution of modern operational art and, if so, where? The answer to that question is yes, the Mexican War represents a distinctly different phase in the evolution of warfare; one that is uniquely American given the nature of the westward expansion and manifest destiny, the natural ocean barriers that precluded any major threat to the nation, and the timing of the Industrial Revolution.

The conduct of the U.S. war in Mexico represents a hybrid way of war; a transitional period in the evolution of American warfare from that of the War of 1812 that laid the foundation for the Civil War. At the start of the Mexican War, Army organization favored more of an 18th century unitary army than a typical European army of the day. However, after reorganizing into divisions, developing a basic system for operational sustainment, and identifying operational objectives the Army changed and began to move quickly away from its old shell.

Intellectually Scott failed to grasp the essence of Napoleonic warfare. But, even if he had, the political realities of the day regarding the type of Army the nation would have prevented him from preparing the Army for the nineteenth century any differently. It required the circumstances of war to force change.

The introduction of this paper included the definition and description of modern operational art and the operational level of war. Operational art, the skillful use of military forces to attain strategic objectives through the design, organization, and conduct of campaigns and major operations, can certainly be applied to the Mexican War. President Polk not only clearly stated the strategic objectives, he maintained a very

tight rein on all operations. Polk's operational design for the war centered around very limited objectives--a design of gradual escalation that is very similar to post-World War II limited wars.⁸³

Unfortunately Polk, like several future U.S. Presidents would do in their limited wars, selected the wrong operational objectives for the initial campaign. The Mexican people and Mexican politic could never accept the loss of any territory, particularly Texas, without direct action against the center of Mexican government. Therefore the campaign to seize the northern provinces of Mexico and the New Mexico and California territories, though successful at the operational level, would never achieve the strategic objectives. To Polk's credit, when he realized the flaw in the operational design he authorized a campaign directed against the Mexican government's center of gravity--Mexico City.

The uniqueness of the Mexican War goes beyond its limited war character. One thing that sets it apart from other limited operations in Europe after the French Revolution was the measured application of force by the army in the field and the emphasis on fairness in all dealings with the Mexican people.⁸⁴

Taylor's northern Mexico campaign was conducted by generally well equipped, disciplined troops with outstanding behavior toward the Mexican populace. Scott shared Taylor's philosophy regarding the conduct of a professional army operating in the field and, in addition to enforcing discipline, sought to use maneuver in lieu of frontal assault to spare both U.S. and Mexican lives.⁸⁵

This humanitarian policy continued throughout the campaign and enabled Scott to control the capital of Mexico and the surrounding

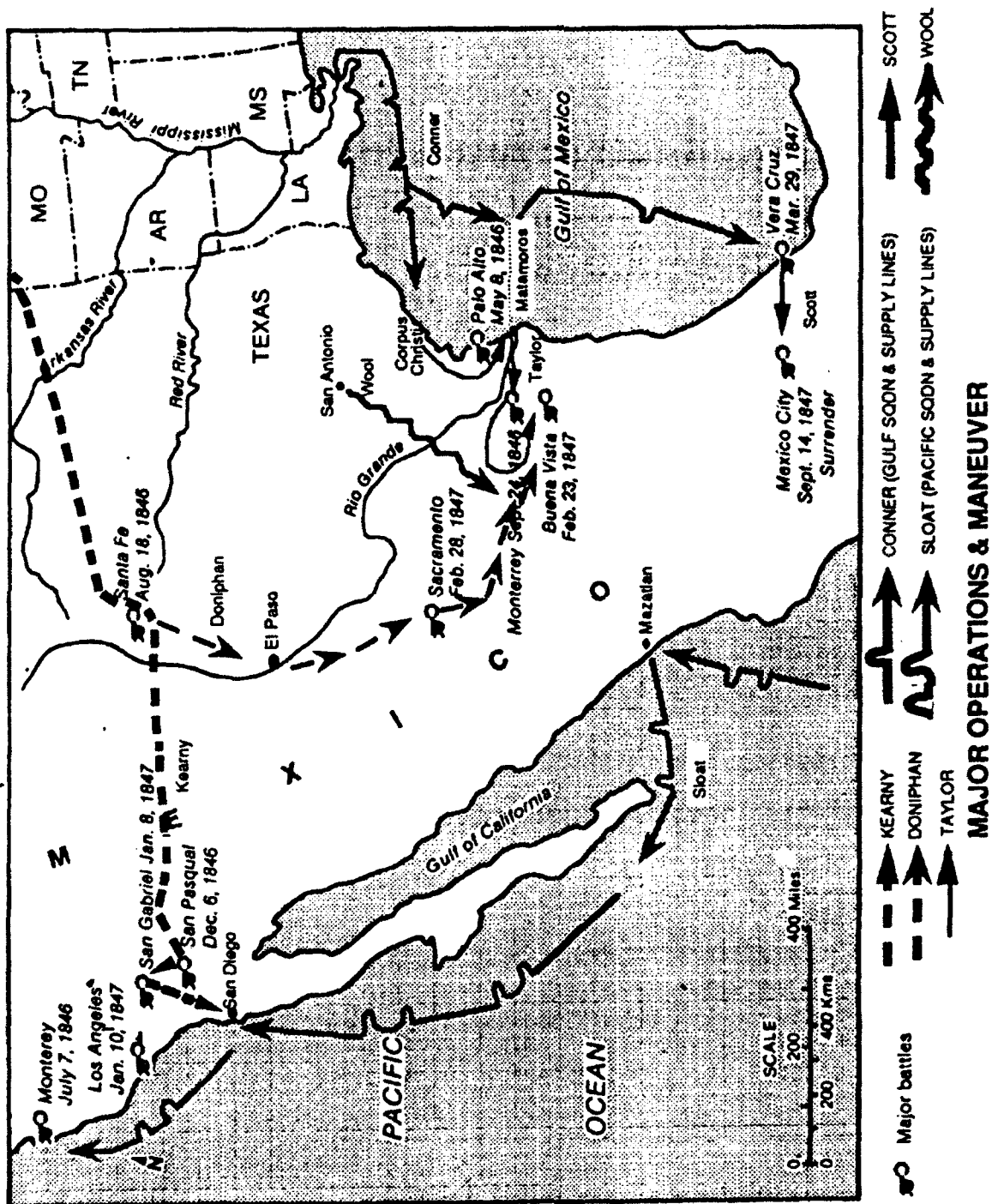
countryside without the vicious, protracted guerrilla fighting that would later typify the Mexican people's reaction to invasion by forces of Napoleon III in the 1860s. Scott's benevolence hastened the final peace settlement because of the pressure put on the government by the people. This transfer of the power to sue for peace from the government to the people is a characteristic, according to J.F.C. Fuller, of nineteenth century war.⁸⁶

The American conduct of the Mexican War exhibited characteristics of the Napoleonic style of operational art despite the obvious organizational weaknesses of the Army. Scott's intent was to design a campaign to achieve the operational objective necessary to force the Mexican government to agree to America's strategic objectives. Vestiges of the operational art that would mature during the Civil War were present and served as a training ground for most of the officers that would participate in the Civil War. That group included Grant, McDowell, McClellan, Meade, Sherman, Lee, Davis, Johnston, Beauregard, Bragg, Longstreet, and Jackson.

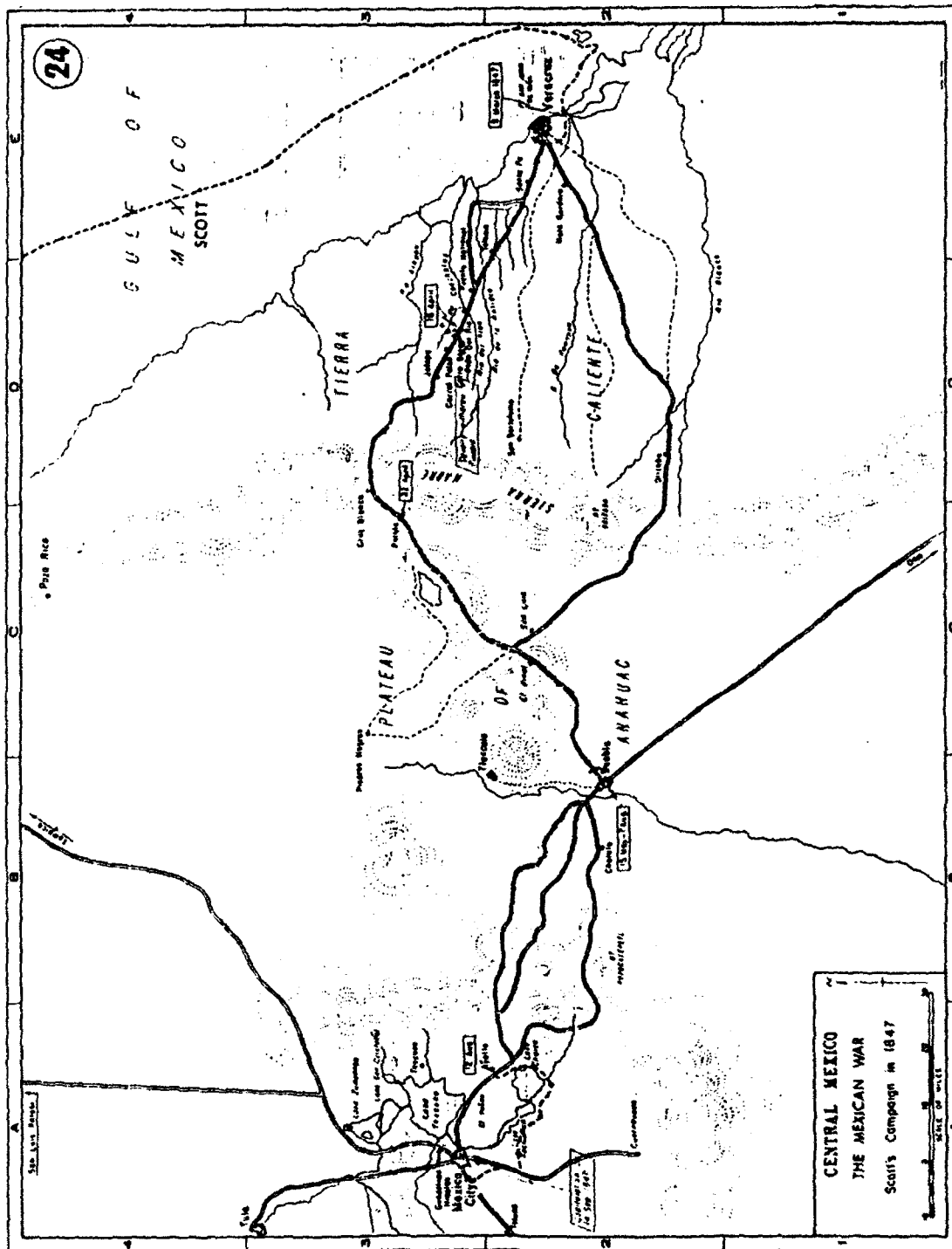
Using the tools and technology available, America's commanders in the Mexican War conducted operations that were joint in nature, involved extended maneuver in space and time, and based on a surprisingly mature operational sustainment system. Notable historians have repeatedly referred to the quality and scope of those operations in terms easily recognizable and applicable to the most successful of recent U.S. expeditionary operations.⁸⁷

That warfare in the United States evolved differently from its evolution in Europe is obvious. Less obvious is the degree to which the

Mexican War served to expedite that evolution. Without it, the institutions and military leaders of the United States would have entered our Civil War with only the experiences of the War of 1812 amalgamated with the written accounts of the Napoleonic Wars and military educations rooted in the classical warfare model. That formula could have subjected the nation to the terrible consequences of a successful War of Secession.



Map Depicting Major Operations and Maneuver



Map Depicting Scott's Operation & Central Mexico
 (Repr. from Early American/Military Institutions,
The West Point Series)

NOTES

1. Robert M. Epstein, "Eagles Triumphant: 1809 and the Emergence of Nineteenth-Century Warfare," (Fort Leavenworth, Kansas: U.S. Army Command and General Staff College, School of Advanced Military Studies, 1992), 3.
2. Department of the Army, Field Manual 100-5, Operations (Washington: Headquarters, Department of the Army, 1986), 10.
3. Joint Chiefs of Staff, Joint Publication 3-0 (Test Publication), Doctrine for Unified and Joint Operations (Washington: The Joint Chiefs of Staff, January 1990), xii.
4. Ibid., xiii.
5. Russell F. Weigley, The American Way of War (Bloomington: Indiana University Press, 1973), 128-152.
6. Epstein, "Eagles Triumphant," 1.
7. Ibid., 14.
8. Ibid., 7, 18, 29, 23, 30, 44, 47. These characteristics are not identified by Epstein in the list fashion presented here but rather in an integrated fashion throughout his work. The first two characteristics are both discussed on page 7.
9. Epstein, "Eagles Triumphant," 30, 47.
10. Ibid., 47.
11. James J. Schneider, "Vulcan's Anvil: The American Civil War and the Emergence of Operational Art" (Theoretical Paper No. 4, U.S. Army Command and General Staff College, School of Advanced Military Studies, 16 June 1991), 40.
12. Ibid., 38-39.
13. Ibid., 38, 40, 45, 52, 55, 58, 61, 63.
14. Ibid., 65.
15. Ibid., 35-36.

16. Executive Correspondence, "Message from the President of the United States, relative to an invasion and commencement of hostilities by Mexico," to the Senate and House of Representatives, May 11, 1846, in Messages of the President of the United States. With the Correspondence. Therewith Communicated. Between the Secretary of War and Other Officers of the Government, on the Subject of the Mexican War (Washington: Wendell and Van Benthuysen, Printers, 1848), 4-10.

17. Russell F. Weigley, The American Way of War (Bloomington: Indiana University Press, 1973), 73.

18. Executive Document No. 60, "Message to Taylor from U.S. Adjutant General, 15 August 1845," in Messages of the President of the United States, 94. R. Ernest Dupuy and Trevor N. Dupuy, Military Heritage of America, rev. ed. (Fairfax, Virginia: Hero Books, 1984), 142, 144.

19. Larry H. Addington, The Patterns of War Since the Eighteenth Century (Bloomington: Indiana University Press, 1984), 54-56. Mark S. Hoffman, ed., The World Almanac and Book of Facts (New York: Pharos Books, 1993), 386.

20. Richard A. Preston and Sydney F. Wise, Men in Arms: A History of Warfare and Its Interrelationship with Western Society (New York: Frederick A. Praeger, 1956; repr., New York: Holt, Rinehart & Winston, 1979), 243-244.

21. Weigley, The American Way of War, 65-66. Addington, The Patterns of War, 56. In so much that U.S. Army doctrine has been in the past and is today written by active duty officers or commands within the active Army, this discussion does not include the impact that teachings at the U.S. Military Academy during the pre-Mexican War years had on doctrine. The impact of Sylvanus Thayer, superintendent of the Military Academy from 1817 until 1833, on the students that would eventually lead the U.S. Army into the era of modern war was significant. Also of note is the contribution of Dennis Hart Mahan, USMA class of 1824, in translating and teaching Napoleonic War.

22. Fayette Robinson, An Account of the Organization of the Army of the United States vol. 1 (Philadelphia: E.H. Butler & Company, 1848), 174-175. Weigley, The American Way of War, 66.

23. Weigley, The American Way of War, 67.

24. K. Jack Bauer, "The Battles on the Rio Grande: Palo Alto and Resaca de la Palma, 8-9 May 1846," America's First Battles, 1776-1965, eds., Charles E. Heller and William A. Stofft (Lawrence: University Press of Kansas, 1986), 60.

25. Bauer, "The Battles on the Rio Grande: Palo Alto and Resaca de la Palma," America's First Battles 1776-1965, 59.

26. Ibid. Robinson, Organization of the Army of the United States, vol. 1, 255-256.

27. Bauer, "The Battles on the Rio Grande," America's First Battles, 60. Robinson, Organization of the Army of the United States, vol. 1, 260. Weigley, The American Way of War, 75.

28. Joseph E. Chance, Jefferson Davis's Mexican War Regiment (Jackson: University Press of Mississippi, 1991), 19. Bauer, "The Battles on the Rio Grande," America's First Battles 1776-1965, 59.

29. Robinson, Organization of the Army of the United States, 156.

30. Ibid.

31. Ibid., 181.

32. Epstein, "Eagles Triumphant," 15, 29-30.

33. Ibid.

34. Weigley, The American Way of War, 74.

35. Epstein, "Eagles Triumphant," 30-31.

36. Bauer, "The Battles on the Rio Grande," America's First Battles, 58-

63. R. Ernest Dupuy and Trevor N. Dupuy, Military Heritage of America, rev. ed. (Fairfax, Virginia: Hero Books, 1984), 167-169.

37. Epstein, "Eagles Triumphant," 14, 30.

38. The 6,000 man Mexican Army of the North, already organized into brigade sized formations under the command and control of a divisional headquarters, maneuvered to attack Taylor before he could receive reinforcements from the states.

These first two battles of the war, Palo Alto and Resaca de la Palma fought over 8-9 May 1846, were resounding victories for the

Americans. Though having a favorable political effect in Washington concerning support for the war and cementing the moral superiority the American Army felt they held over the Mexicans, these battles were in essence tactical engagements with no direct application to the operational design of Taylor's campaign. For the American's these two battles were defensive actions that bought time for the required build-up of logistics and troops before the operational aspects of the campaign could be undertaken.

39. John S. D. Eisenhower, So Far From God: The U.S. War With Mexico 1846-1848 (New York: Random House, 1989), 110-111. Robert Selph Henry, The Story of the Mexican War (New York: The Bobbs-Merril Company, Inc., 1950), 141-142. The commander of the second regiment of Texas Rangers was Colonel George Wood.

40. Eisenhower, So Far From God, 111, 157. Taylor left the 4,700 volunteer troops at Camargo ostensibly due to lack of transport. Pointed complaints from Taylor about the Quartermaster General (Brevet Major General Thomas S. Jesup) typified the Army's build-up at Camargo, especially the shortage of wagons and draft animals. Those complaints were generally inaccurate, but understandable, frustrations as a result of reorganization effort that Taylor was conducting. Jesup, directing the organization of a war-time procurement system, was actually doing a very credible job and much of the Army's success in Mexico must go to him. Executive Document No. 60, "Series of messages from Secretary of War (Marcy) to Jessup, 21 September 1846, through 5 December 1846," from Messages of the President of the United States, 559, 566, 590-691.

41. Ibid., 121.

42. Ibid., 129.

43. Epstein, "Eagles Triumphant," 18-19.

44. Ibid., 19-20, 29.

45. Ibid., 47.

46. Schneider, "Vulcan's Anvil," 40, 52.

47. Ibid., 55.

48. Ibid.

49. Executive Document No. 60, "Message from the President of the United States to the Senate and House of Representatives," in Messages of the President of the United States, 117.
50. Executive Document No. 60, "Various messages to and from the Quartermaster General (Jesup)," in Messages of the President of the United States, 758, 1256-1259.
51. Eisenhower, So Far From God, 171.
52. Executive Document No. 60, "Message from H.L. Thistle, Procurement Agent to Thomas S. Jesup, Quartermaster General, 4 August 1846," in Messages of the President of the United States, 727-728. Bauer, The Mexican War, 396. Schneider, "Vulcan's Anvil," 53.
53. Bauer, The Mexican War, 129.
54. Ibid., 130.
55. Otis A. Singletary, The Mexican War (Chicago: The University of Chicago Press, 1960), 65.
56. Eisenhower, So Far From God, 257.
57. Epstein, "Eagles Triumphant," 44.
58. Schneider, "Vulcan's Anvil," 58-59.
59. Eisenhower, So Far From God, 266.
60. Ibid., 265.
61. Ibid., 267.
62. Ibid., 274. Bauer, The Mexican War, 263-264.
63. Eisenhower, So Far From God, 267, 269.
64. Bauer, The Mexican War, 269.
65. Eisenhower, So Far From God, 307.
66. Ibid., 309-310.

67. Ibid., 313-314. Bauer, The Mexican War, 396. Executive Document No. 60, 'Message from H.L. Thistle, Procurement Agent to Thomas S. Jesup, Quartermaster General, 4 August 1864,' in Messages of the President of the United States, 727-728.
68. Schneider, "Vulcan's Anvil," 38.
69. Ibid., 40.
70. Ibid., 41.
71. Eisenhower, So Far From God, 315-316.
72. Ibid., 326-327.
73. Ibid., 324-325.
74. Schneider, "Vulcan's Anvil," 61-62.
75. Epstein, "Eagles Triumphant," 23.
76. Schneider, "Vulcan's Anvil," 63.
77. Dupuy and Dupuy, Military Heritage of America, 191. Weigley, "American Strategy from Its Beginnings through the First World War," in Makers of Modern Strategy, ed. Peter Paret (Princeton, New Jersey: Princeton University Press, 1986), 413-414.
78. Epstein, "Eagles Triumphant," 30.
79. Dupuy and Dupuy, Military Heritage of America, 168.
80. Ibid., 172. Addington, The Patterns of War Since the Eighteenth Century, 54.
81. Schneider, "Vulcan's Anvil," 42.
82. J.F.C. Fuller, The Conduct of War, 1789-1961 (New Brunswick, New Jersey: Rutgers University Press, 1961; repr., New York: Da Capo Press, 1992), 103.
83. Bauer, The Mexican War, 396.
84. Weigley, The Way of War, 75.

85. Executive Document No. 60, "Message from HQ, Army of Occupation (Taylor), to The Adjutant General of the Army, 4 October 1845," Messages of the President of the United States, 108.

86. Fuller, The Conduct of War, 108.

87. Dupuy and Dupuy, Military Heritage of America, 170. Weigley, The American Way of War, 75.

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